UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

July 21, 1997

Mr. Larry Giebelhaus
Project Manager
The Dow Chemical Company
1261 Building
Midland, Michigan 48667

SUBJECT: ISSUANCE OF LICENSE AMENDMENT TO THE DOW CHEMICAL COMPANY TO APPROVE THE DECOMMISSIONING CRITERIA AND FINAL SURVEY PLAN FOR THE DECOMMISSIONING OF THORIUM CONTAMINATED SLAG STORAGE PILES AT THE DOW CHEMICAL COMPANY'S SITES IN MIDLAND AND BAY CITY, MICHIGAN

Dear Mr. Giebelhaus:

In accordance with statements and representations specified in your license amendment request submittals dated October 12, 1993; December 6, 1995; March 11, 1996; May 24, 1996; and March 31, 1997; and pursuant to Title 10, Code of Federal Regulations, Part 40, the U.S. Nuclear Regulatory Commission hereby issues Amendment No. 7 to Source Material License No. STB-527 (Enclosure 1). Amendment No. 7 to License No. STB-527 approves, in conditions 12.A. and 12.B., the decommissioning criteria and final survey plan for the decommissioning of the thorium slag storage piles at the Dow Chemical Company's (Dow) sites in Midland and Bay City, Michigan.

Nuclear Regulatory Commission staff's review of the license amendment request is documented in a Safety Evaluation Report (Enclosure 2). The Environmental Assessment (Enclosure 3) and the Federal Register notice of a Finding of No Significant Impact and Opportunity for Hearing (Enclosure 4), for the issuance of this license amendment, are enclosed for your information. NRC staff has reviewed your decommissioning criteria and final survey plan with regard to NRC regulations and found them acceptable.

Please be advised that you must conduct the decommissioning and final survey activities at the Dow Midland and Bay City sites in accordance with your license, representations made in the amendment request documentation, and NRC regulations. NRC will inspect your site during the authorized activities.

If you have any questions, please contact Jack Parrott, NRC project manager for the Dow sites, at (301) 415-6700.

Sincerely,

John W. N. Hickey, Chief
Low-Level Waste and Decommissioning
Projects Branch
Division of Waste Management
Office of Nuclear Material Safety
and Safeguards

Docket No. 040-00017
License No. STB-527

Enclosures:
1. License No. STB-527
2. Safety Evaluation Report
3. Environmental Assessment
4. Federal Register Notice

cc: D. Minnaar, MDEQ
J. C. Dehmel, SC&A
J. Basta, Dykema Gossett
H. P. Friesema, NU

If you have any questions, please contact Jack Parrott, NRC project manager for the Dow sites, at (301) 415-6700.

Sincerely,

[ORIGINAL SIGNED BY:]

John W. N. Hickey, Chief
Low-Level Waste and Decommissioning
Projects Branch
Division of Waste Management
Office of Nuclear Material Safety
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Docket No. 040-00017
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U.S. NUCLEAR REGULATORY COMMISSION
ENVIRONMENTAL ASSESSMENT AND
FINDING OF NO SIGNIFICANT IMPACT
RELATED TO THE APPROVAL OF RELEASE CRITERIA
FOR DECOMMISSIONING DOW CHEMICAL COMPANY'S
THORIUM-CONTAMINATED SLAG STORAGE PILES
IN MIDLAND AND BAY CITY, MICHIGAN
DOCKET NO. 040-00017

FOREWORD: The U.S. Nuclear Regulatory Commission is considering a license amendment request, submitted by The Dow Chemical Company (Dow). The proposed action is the approval of Dow's final radiation survey plan and unrestricted release criteria for the thorium-contaminated slag storage piles at Dow's Midland and Bay City, Michigan, plant sites. This environmental assessment evaluates Dow's proposed unrestricted release criteria.

SUMMARY AND CONCLUSIONS: Based on staff's evaluation of Dow's unrestricted release criteria, it was determined that the proposed criteria complies with NRC's guidance on criteria for release for unrestricted use, and that authorizing the license amendment would not be a major Federal action significantly affecting the quality of the human environment. The staff concludes that a finding of no significant impact is justified and appropriate and that an environmental impact statement is not required. Since this is a proceeding on an application for a license amendment falling within the scope of the hearing procedures in Subpart L of 10 CFR Part 2, an Opportunity for a Hearing will be offered.

1. INTRODUCTION

Dow submitted its proposed release criteria by letter dated March 11, 1996. The proposed action is the approval of the release criteria so that Dow can complete remediation of the storage areas, release them for unrestricted use, and terminate the license. Dow is currently decommissioning the Midland and Bay City, Michigan, sites, by excavating and transporting, by truck, the contaminated material from the Midland facility to the Bay City facility. The thorium-contaminated material from both facilities is then transported by rail for burial at the Envirocare low-level radioactive waste facility in Clive, Utah. NRC issued the license amendment authorizing the current decommissioning activities on July 19, 1996.

2. FACILITY DESCRIPTION/OPERATING HISTORY

Dow began using thorium metal and compounds for the production of magnesium-thorium alloys at a Dow-owned site in Bay City, Michigan, in 1956. The waste slag from the alloying process was disposed of on Dow property in Bay City. Magnesium-thorium material returned by Dow customers was received at the Midland site for storage. The buildings at Bay City used for magnesium-thorium alloying have been decommissioned under another license. The remaining materials licensed to Dow are in the two waste storage piles, in Midland and Bay City, that are currently being decommissioned.

3. RADIOLOGICAL STATUS OF THE FACILITIES

The 49-m-by-91-m (160-ft-by-300-ft) Midland site, located within the Midland city limits, is fenced off and posted, to prevent inadvertent employee access, and is within a fenced Dow-owned industrial complex controlled by Dow security. The contaminated material, which lies below grade, is currently being excavated and trucked to a railhead at Dow's Bay City site.

The Bay City site is located 1.6 km (1 m) south of Saginaw Bay and 32 km (20 m) east of Midland. This contaminated material is also stored on a fenced Dow-owned area controlled by Dow security. This material is being excavated and, along with the Midland material, is being shipped by rail to the Envirocare facility.

Past monitoring of groundwater at the Bay City site has generally shown that thorium and radium concentrations are at background levels. The potential for groundwater impact at the Midland and Bay City sites will be evaluated during the decommissioning of the sites.

4. ALTERNATIVES TO THE PROPOSED ACTION

The staff-identified alternatives for approving Dow's proposed release criteria are: 1) no action; or 2) adherence to the remediation criteria in the "Action Plan to Ensure Timely Cleanup of Site Decommissioning Management Plan Sites" (SDMP Action Plan)(57 FR 13389, April 16, 1992).

5. RADIATION PROTECTION PROGRAMS

The occupational direct exposure, inhalation, and ingestion hazards will be kept as low as is reasonably achievable during the decommissioning and within NRC guidelines as discussed in the licensee's submittals and the NRC Safety Evaluation Report for this licensing action. The licensee estimates that the maximum dose to the onsite worker from decommissioning activity would be 2.3 mSv/year (230 mrem/year). The site is within property protected by Dow security so inadvertent intrusion hazards will be minimized. Therefore, no threat to public health and safety is expected from the site during decommissioning.

6. ENVIRONMENTAL IMPACTS

6.1 Preferred Alternative

6.1.1 Soil Release Criteria

The radioactive contamination on the Dow sites is a mixture of three thorium isotopes: thorium-232, thorium-228, and thorium-230. By activity the thorium-232 and thorium-228 are in equal concentration and they are both part of the thorium-232 decay chain. Thorium-230 is from the uranium-238 decay chain; therefore its concentration is independent of the thorium-232 or thorium-228 concentration. The licensee has found that, by activity, the

average ratio of thorium-232:thorium-230 in the contaminated material ranges from 1:3 to 1:1.

NRC's soil remediation criteria for thorium and uranium wastes, referenced in the SDMP Action Plan, is from the Branch Technical Position (BTP) entitled "Disposal or Onsite Storage of Thorium or Uranium Wastes from Past Operations"(46 FR 52601, October 23, 1981). In the BTP the option 1 (unrestricted use) remediation criterion for natural thorium (thorium-232 + thorium-228) is 0.37 Bq (10 pCi)/g. The option 1 remediation criterion for natural uranium (uranium-238 + uranium-235 + uranium-234) is also 0.37 Bq (10 pCi)/g. There is no specific remediation criterion in the BTP for thorium-230.

Because of the mixture of thorium isotopes at the Dow sites and the variable isotopic ratios, the licensee has proposed a total thorium remediation criterion for each 10-m-by-10-m (33-ft-by-33-ft) survey grid square that is limited by the dose an individual would receive from the BTP option 1 concentrations of thorium-232 + thorium-228. The dose limit is then applied to the soil concentration and ratio of thorium-232 + thorium-228 to thorium-230 in that grid square.

The licensee made calculations to verify that the potential dose from the residually contaminated soil, at any isotopic ratio, to an onsite resident, would be less than or equal to the potential dose from the option 1 thorium remediation criteria in the BTP. The licensee determined that a concentration of purely thorium-230 at 0.78 Bq (21 pCi)/g would give a dose equivalent to 0.37 Bq (10 pCi)/g of thorium-232 + thorium-228. Therefore, the guideline concentration for thorium-230 is 21 pCi/g and for thorium-232 + thorium-228 it is 0.37 Bq (10 pCi)/g.

The licensee has proposed a fractional contribution approach (NUREG/CR-5849, Appendix A) (Ref. 1) to determine an activity guideline for any potential mixture of thorium isotopes at this site. This approach uses the sum of the ratios equation to determine the site-specific guidelines for each isotope:

Equation. The sum of the ratios equation specific for Dow's sites.

$$1 \geq \frac{1}{C_{Th\text{-}230}/21 + (C_{Th\text{-}232} + C_{Th\text{-}228})/10}$$

Where: $C_{Th\text{-}2xx}$ = Concentration of specific thorium isotope in pCi/g in any given grid square.

Using the sum of the ratios approach a hypothetical range of limiting thorium isotope and total thorium concentrations for a range of thorium isotopic ratios that could be allowed on this site is given in the following table.

Limiting Concentrations of Thorium Isotopes and Total Thorium Concentration Remediation Criteria (in pCi/g) as a Function of the Th-232:Th-230 Ratio

Th-232:Th-230 ratio	Th-232 (pCi/g)	Th-228 (pCi/g)	Th-230 (pCi/g)	Total Thorium (pCi/g)
0:1	0.0	0.0	21.0	21.0
1:~~8~~1.26	2.9	2.9	8.8	14.6
1:~~8~~1.26	3.4	3.4	6.8	13.6
1:1	4.1	4.1	4.0	12.2
1:0	5.0	5.0	0.0	10.0

The staff evaluated the licensee's dose calculations that support its thorium limits using the U.S. Department of Energy's dose assessment methodology contained in the "Manual for Implementing Residual Radioactive Material Guidelines Using RESRAD" (Ref. 2). RESRAD is the computer code that implements DOE's dose assessment methodology.

RESRAD contains a scenario with default parameters for an onsite resident. NRC has a limited set of default parameters for dose assessments as identified in Policy and Guidance Directive PG-8-08 (Ref. 3). The RESRAD code (Version 5.62) was run using the PG-8-08 default parameters and the thorium remediation standards described above. The thickness of the residual contamination zone was set at 15 cm (6 in). This seemed reasonable considering the extensive remediation that will have occurred at these sites.

The dose modeling results for Dow's proposed remediation criteria gave a maximum dose at or below the dose modeling results for the BTP option 1 thorium remediation criteria (maximum modeled dose of 0.03 mSv (30 mrem)/year predominantly from the direct radiation and inhalation pathways). Based on these results, Dow's proposed isotope specific concentration limits for soil comply with NRC's guidance for unrestricted release and are acceptable for unrestricted release.

6.1.2 Surface Release Criteria

NRC's guidance for release of facility and equipment surfaces is contained in NRC Policy and Guidance Directive FC 83-23 (Ref. 4) and also in NRC Regulatory Guide 1.86 (Ref. 5). Dow proposes to use this guidance for release of facility and equipment surfaces contaminated with thorium. However, the remediation criteria for average contamination levels in NRC guidance are different for thorium-232 and thorium-230 (17 Bq (1000 dpm)/100 cm^2 and 1.7 Bq (100 dpm)/100 cm^2 respectively). When multiple radionuclides are present, NUREG/CR-5849 provides guidance for determining site specific guidelines based on the relative ratios of the contribution of each radioisotope to the total activity level. Using this guidance, and the more conservative thorium-232 to thorium-230 ratio of 1 to 3, Dow proposes to use 2.2 Bq (129 dpm)/100 cm^2 as

the average contamination level for release of facility and equipment surfaces for unrestricted use. Since the determination of this value was made in compliance with NRC's guidance, Dow's proposed remediation criterion for surfaces is acceptable for unrestricted release.

6.1.3 Non-radiological Environmental Impact

There is also the potential for non-radiological environmental impact from residual material being left at Midland and Bay City. However, materials from both the Midland and Bay City sites were tested by Dow using the extraction procedure toxicity test. None of the materials tested were found to contain heavy metals above the limits required to establish toxicity.

6.2 Other Alternatives

6.2.1 No Action

The no-action alternative would mean that Dow would not obtain approved remediation criteria. Therefore, the site could not be released for unrestricted use. This conflicts with NRC's requirement, in 10 CFR §40.42, of timely remediation at sites that have ceased operation. Although there would be no immediate threat to the public health and safety from the sites, not completing remediation at this time is not otherwise in the public interest.

6.2.2 Using Established Guidance

This alternative is complete adherence to the remediation criteria in the SDMP Action Plan. The SDMP Action Plan calls for SDMP sites to be released for unrestricted use. The SDMP Action Plan specifies the residual contamination criteria that are deemed to be acceptable for unrestricted use.

As was pointed out earlier there is a mixture of thorium-232/thorium-228 and thorium-230 at this site. Because the remediation criterion in the SDMP Action Plan is for thorium-232/thorium-228 only, the licensee had to determine site-specific remediation criteria for its site and could not rely directly on the established guidance in the SDMP Action Plan. Therefore, established guidance does not fully cover the variety of radionuclides available at this site.

7. CONCLUSIONS

Dow's preferred alternative provides the most complete and optimum level of protection of human health and safety and the environment among the various alternatives for release of this site. The staff believes that approving Dow's proposed release criteria will not cause any significant impacts on the human environment and is acceptable.

8. AGENCIES AND INDIVIDUALS CONSULTED, AND SOURCES USED

Only NRC prepared this Environmental Assessment. The staff consulted with the

Michigan Department of Environmental Quality staff for review of Dow's proposed final radiation survey plan, release criteria, and this Environmental Assessment.

9. REFERENCES

1. U.S. Nuclear Regulatory Commission, "Manual for Conducting Radiological Surveys in Support of License Termination, Draft Report for Comment," NUREG/CR-5849, 1992.

2. Yu, C., et al., "A Manual for Implementing Residual Radioactive Material Guidelines Using RESRAD, Version 5.0," ANL/EAD/LD-2, 1993, prepared by Argonne National Laboratory, Argonne, IL, for U.S. Department of Energy, Washington, D.C.

3. U.S. Nuclear Regulatory Commission, "Scenarios for Assessing Potential Doses Associated with Residual Radioactivity," Policy and Guidance Directive PG-8-08, 1994.

4. U.S. Nuclear Regulatory Commission, "Termination of Byproduct, Source and Special Nuclear Material Licenses," Policy and Guidance Directive FC 83-23, 1983.

5. U.S. Nuclear Regulatory Commission, "Termination of Operating Licenses for Nuclear Reactors," Regulatory Guide 1.86, 1974.

FINDING OF NO SIGNIFICANT IMPACT:

Based on the findings in the environmental assessment, the staff has determined that, under the National Environmental Policy Act of 1969, as amended, and NRC's regulations in 10 CFR Part 51, authorizing this license amendment would not be a major Federal action significantly affecting the quality of the human environment, and therefore an environmental impact statement is not required. The staff concludes that a finding of no significant impact is justified and appropriate.

The staff believes that approving of Dow's release criteria will not cause any significant impacts on the human environment and is acceptable. Dow's preferred alternative provides the most complete and optimum level of protection of human health and safety and the environment among the various alternatives for release of this site.

NRC FORM 374
(7-94)

U.S. NUCLEAR REGULATORY COMMISSION

MATERIALS LICENSE

Amendment No. 7

Pursuant to the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974 (Public Law 93-438), and Title 10, Code of Federal Regulations, Chapter I, Parts 30, 31, 32, 33, 34, 35, 36, 39, 40, and 70, and in reliance on statements and representations heretofore made by the licensee, a license is hereby issued authorizing the licensee to receive, acquire, possess, and transfer byproduct, source, and special nuclear material designated below; to use such material for the purpose(s) and at the place(s) designated below; to deliver or transfer such material to persons authorized to receive it in accordance with the regulations of the applicable Part(s). This license shall be deemed to contain the conditions specified in Section 183 of the Atomic Energy Act of 1954, as amended, and is subject to all applicable rules, regulations, and orders of the Nuclear Regulatory Commission now or hereafter in effect and to any conditions specified below.

Licensee	
1. The Dow Chemical Co.	3. License Number: STB-527 is amended in its entirety to read as follows:
2. 1261 Building Midland, MI 48667	4. Expiration Date: March 31, 1978
	5. Docket or Reference No.: 040-00017

6. Byproduct, Source, and/or Special Nuclear Material	7. Chemical and/or Physical Form	8. Maximum Amount that Licensee May Possess at Any One Time Under This License
A. Thorium	A. Contaminated soil, sludge, sediment, trash, building rubble, structures, and any other contaminated material.	A. All residual contamination which currently exists at Dow's Midland and Bay City, MI sites.

CONDITIONS

9. Authorized Use: Licensed material shall be possessed and used during site activities leading to its removal from the Midland and Bay City sites in accordance with the statements, representations, and procedures contained in the amendment request dated October 12, 1995; and the supplemental information submitted by letters dated December 6, 1995; March 11, 1996; and May 24, 1996.

10. Authorized Place of Use: The existing Dow sites in Midland and Bay City, MI.

11. The Radiation Safety Officer for this license is Kenneth Baker.

MATERIALS LICENSE
SUPPLEMENTARY SHEET

License Number: STB-527
Amendment No. 7
Docket or Reference Number: 040-00017

12.A. The Dow Chemical Company shall conduct the final survey of the Midland and Bay City sites in accordance with the final survey plans submitted by letters dated October 12, 1993; December 6, 1995; March 11, 1996; and March 31, 1997.

12.B. The Dow Chemical Company shall use the release criteria for surfaces and soil established in submittal of March 11, 1996.

FOR THE U.S. NUCLEAR REGULATORY COMMISSION

Date: July 21, 1997

By: John W. N. Hickey

John W. N. Hickey, Chief
Low-Level Waste and Decommissioning
Projects Branch
Division of Waste Management
Office of Nuclear Material Safety
and Safeguards

DOCKET NO: 040-00017

LICENSE NO: STB-527

LICENSEE: THE DOW CHEMICAL COMPANY
MIDLAND, MICHIGAN

SUBJECT: SAFETY EVALUATION REPORT, LICENSE AMENDMENT REQUEST DATED OCTOBER 12, 1993, WITH SUPPLEMENTS DATED DECEMBER 6, 1995, MARCH 11, 1996, AND MARCH 31, 1997, RE: FINAL SURVEY PLAN FOR DECOMMISSIONING OF MAGNESIUM-THORIUM SLAG STORAGE SITES AT MIDLAND AND BAY CITY, MICHIGAN

1. INTRODUCTION

The Dow Chemical Company's (Dow) thorium slag storage sites are listed in the U.S. Nuclear Regulatory Commission's "Action Plan to Ensure Timely Remediation of Sites Listed in the Site Decommissioning Management Plan" (SDMP Action Plan)(57 FR 13389-92) as Midland and Bay City, Michigan. Dow submitted its plan for the final survey of these sites by letters dated October 12, 1993; December 6, 1995; March 11, 1996; and March 31, 1997; and has requested that its license be amended to approve the final survey plan.

Dow has been decommissioning its thorium slag storage sites under a decommissioning plan approved by NRC on July 19, 1996. The removal project involves the excavation and transport (by truck) of the thorium-contaminated material from the Midland facility to the Bay City facility. The thorium-contaminated material from both facilities is being transported by rail for disposal at the Envirocare of Utah, Inc., low-level radioactive waste disposal facility.

2. SAFETY EVALUATION

The final survey project will be conducted under Dow's approved radiation safety program for decommissioning. The staff has reviewed the licensee's established radiation safety program and found that it is acceptable for use during the final survey, in accordance with the requirements contained in 10 CFR 20.1101(a) and (b).

3. DESIGN OF THE FINAL SURVEY

NRC's guidance for the design of final surveys for open land areas is contained in NUREG/CR-5849, entitled, "Manual for Conducting Radiological Surveys in Support of License Termination." The NUREG/CR-5849 design provides for four separate samples in each 10-m-by-10-m (33-ft-by-33-ft) grid square. Taking more than one separate sample from a grid square allows for the use of a hot-spot averaging criterion where concentrations above the release criteria are allowed if the elevated readings are confined to a localized area within the grid square.

The maximum area (A) of a hot spot in a 100 m^2 (1080 ft^2) area is defined by how many times (x) above the release criteria the concentration in the hot spot is.

$x = (100\ m^2/A)^{1/2}$ or $A = 100\ m^2/x^2$.

Dow has proposed a final survey design different than that in NUREG/CR-5849. Dow's proposal is to take nine samples in each grid square (each sample representing an area of 11.1 m^2 (120 ft^2) or 100 m^2 (1080 ft^2)/9) and composite them into one sample that will represent that grid square. The total thorium concentration for each composite sample is then compared with the unrestricted release criterion evaluated in the environmental assessment for this license amendment.

NRC guidance in NUREG/CR-5849 suggests that any elevated soil contamination areas within a grid square should be no more than 3 times the release criteria. Because the licensee is compositing the samples from each grid square, there is the potential, because of sample dilution, that an area with elevated residual activity, more than 3 times the release criteria, could exist within the grid square, and the grid square composite sample could still pass the release criteria.

To avoid the possibility that any individual sample could have a concentration more than 3 times the release criteria, the licensee will perform an integrated gamma reading at each of the individual sampling locations before collection of the sample. Gamma scanning is appropriate with thorium-232 because its daughter product, actinium-228, yields a high gamma abundance when it decays. If the integrated gamma count rate is more than 3 times the relative background at the sample location, additional soil is removed until the gamma scan shows that the sample location is less than 3 times background. After the hot spot is removed, a soil sample is collected from that location and composited with the other eight individual samples from the grid square.

4. GENERAL CONCLUSIONS

The staff reviewed Dow's proposed final survey plan for the Midland and Bay City sites to ensure that it can be carried out in accordance with NRC regulations and the as low as is reasonably achievable principle. The proposed methods for performing the final survey are adequately described in the licensee's submittals. The techniques and equipment described have been successfully applied to final surveys of other contaminated sites and are acceptable to NRC.

The staff recommends that condition 12 of the license be amended to delete the current surface contamination guideline for trucks, to approve and reference Dow's plans for the final survey, and to approve the proposed release criteria (evaluated in the environmental assessment for this action). Therefore, the staff recommends that condition 12 of Dow's license number STB-527 be amended to read:

CONDITION 12.A. The Dow Chemical Company shall conduct the final survey of the Midland and Bay City sites in accordance with the final survey plans submitted by letters dated October 12, 1993; December 6, 1995; March 11, 1996; and March 31, 1997.

CONDITION 12.B. The Dow Chemical Company shall use the release criteria for surfaces and soil established in submittal of March 11, 1996.

The staff concludes that with these conditions, the license amendment approving Dow's final survey plan and release criteria for the magnesium-thorium storage sites can be issued without undue risk to workers, the public, or the environment, and that the amendment meets the requirements for approval described in 10 CFR 40.32.

Nuclear Regulatory Commission, Washington, DC 20555–0001, Attention: Rulemakings and Adjudications Staff, or may be delivered to the Commission's Public Document Room, the Gelman Building, 2120 L Street, NW., Washington, DC, by the above date. A copy of the petition should also be sent to the Office of the General Counsel, U.S. Nuclear Regulatory Commission, Washington, DC 20555–0001, and to Michael I. Miller, Esquire; Sidley and Austin, One First National Plaza, Chicago, Illinois 60603, attorney for the licensee.

Nontimely filings of petitions for leave to intervene, amended petitions, supplemental petitions and/or requests for hearing will not be entertained absent a determination by the Commission, the presiding officer or the presiding Atomic Safety and Licensing Board that the petition and/or request should be granted based upon a balancing of the factors specified in 10 CFR 2.714(a)(1) (i)–(v) and 2.714(d).

For further details with respect to this action, see the application for amendments dated June 9, 1997, which is available for public inspection at the Commission's Public Document Room, the Gelman Building, 2120 L Street, NW., Washington, DC, and at the local public document room located at: for Byron, the Byron Public Library District, 109 N. Franklin, P.O. Box 434, Byron, Illinois 61010; for Braidwood, the Wilmington Public Library, 201 S. Kankakee Street, Wilmington, Illinois 60481.

Dated at Rockville, Maryland, this 27th day of June 1997.

For the Nuclear Regulatory Commission.

George F. Dick, Jr.,

Senior Project Manager Project Directorate III–2, Division of Reactor Projects—III/IV, Office of Nuclear Reactor Regulation.

[FR Doc. 97–17992 Filed 7–9–97; 8:45 am]

BILLING CODE 7590–01–P

NUCLEAR REGULATORY COMMISSION

[Docket No. 040–0017]

Notice of Environmental Assessment, Finding of No Significant Impact

AGENCY: Nuclear Regulatory Commission.

ACTION: Notice of environmental assessment, finding of no significant impact, and opportunity for hearing related to amendment of materials license no. STB–527 for the Dow Chemical Company, Midland, Michigan.

The U.S. Nuclear Regulatory Commission is considering a license amendment request submitted by the Dow Chemical Company (Dow). The proposed action is the approval of Dow's unrestricted release criteria for the thorium-contaminated slag storage piles at Dow's Midland and Bay City, Michigan, plant sites.

Summary of the Environmental Assessment

Dow submitted its proposed release criteria by letter dated March 11, 1996. The proposed action is the approval of the release criteria so that Dow can complete remediation of the storage areas, release them for unrestricted use, and terminate the license. The proposed action is necessary so that Dow can release the current storage areas for unrestricted use and terminate Dow's license.

Dow is currently decommissioning the Midland and Bay City, Michigan, sites, by excavating and transporting the contaminated material, by truck, from the Midland, to the Bay City, facility. The thorium-contaminated material from both facilities is then transported by rail for burial at the Envirocare low-level radioactive waste facility in Clive, Utah. NRC issued the license amendment authorizing the current decommissioning activities on July 19, 1996.

Based on staff's evaluation of Dow's unrestricted release criteria, it was determined that the proposed criteria complies with NRC's guidance on criteria for release for unrestricted use, and that authorizing the license amendment would not be a major Federal action significantly affecting the quality of the human environment. The staff concludes that a finding of no significant impact is justified and appropriate and that an environmental impact statement is not required.

The staff-identified alternatives for approving Dow's proposed release criteria are: (1) No action; or (2) adherence to the remediation criteria in the "Action Plan to Ensure Timely Cleanup of Site Decommissioning Management Plan Sites" (SDMP Action Plan) (57 FR 13389, April 16, 1992). NRC's soil remediation criteria for thorium and uranium wastes, referenced in the SDMP Action Plan, are from the Branch Technical Position (BTP) entitled "Disposal or Onsite Storage of Thorium or Uranium Wastes from Past Operations" (46 FR 52601, October 23, 1981).

The no-action alternative runs counter to the goals of 10 CFR part 40 and protecting public health safety and environment. The dose modeling results for Dow's proposed remediation criteria gave a maximum dose at or below the dose modeling results for the BTP Option 1 thorium remediation criteria (maximum modeled dose of 0.03 mSv (30 mrem)/year predominantly from the direct radiation and inhalation pathways). Based on these results, Dow's proposed isotope specific concentration limits for soil comply with NRC's guidance for unrestricted release and are acceptable for unrestricted release.

Finding of No Significant Impact:

Based on the findings in the environmental assessment, the staff has determined that, under the National Environmental Policy Act of 1969, as amended, and NRC's regulations in 10 CFR part 51, authorizing this license amendment would not be a major Federal action significantly affecting the quality of the human environment and, therefore, an environmental impact statement is not required. The staff concludes that a finding of no significant impact is justified and appropriate.

The staff believes that approval of Dow's release criteria will not cause any significant impacts on the human environment and is acceptable. Dow's preferred alternative provides the most complete and optimum level of protection of human health and safety and the environment among the various alternatives for release of this site.

Further Information

For additional information regarding the proposed action, see the licensee's proposed release criteria submitted by letter dated March 11, 1996, and supplementary information, the safety evaluation report, and the environmental assessment, which are available for inspection at NRC's Public Document Room, 2120 L Street NW, Washington, DC.

For further information contact Jack D. Parrott, Division of Waste Management, USNRC, Mailstop T–8F37, Washington, DC 20555–0001, Telephone: (301) 415–6700.

Opportunity for a Hearing

NRC hereby provides notice that this is a proceeding on an application for a license amendment falling within the scope of Subpart L, "Informal Hearing Procedures for Adjudications in Materials Licensing Proceedings," of NRC's rules of practice, for domestic licensing proceedings, in 10 CFR Part 2. Pursuant to 10 CFR 2.1205(a), any person whose interest may be affected by this proceeding may file a request for a hearing in accordance with 10 CFR 2.1205(c). A request for a hearing must be filed within thirty (30) days of the

date of publication of this **Federal Register** notice.

The request for a hearing must be filed with the Office of the Secretary either:

1. By hand delivery to: Docketing and Service Branch, Office of the Secretary, 11555 Rockville Pike, Rockville, MD 20852, between 7:45 a.m. and 4:15 p.m., Federal workdays; or

2. By mail or telegram to: Secretary, U.S. Nuclear Regulatory Commission, Washington, DC 20555–0001, Attention: Docketing and Services Branch.

In addition to meeting other applicable requirements of 10 CFR Part 2 of NRC's regulations, a request for a hearing filed by a person other than an applicant must describe in detail:

1. The interest of the requestor in the proceeding;

2. How that interest may be affected by the results of the proceeding, including the reasons why the requestor should be permitted a hearing, with particular reference to the factors set out in 10 CFR 2.1205(g);

3. The requestor's areas of concern about the licensing activity that is the subject matter of the proceeding; and

4. The circumstances establishing that the request for a hearing is timely in accordance with 10 CFR 2.1205(c).

Each request for a hearing must also be served, by delivering it personally or by mail to:

1 The applicant, The Dow Chemical Company, Attention: Mr. Larry Giebelhaus, Project Manager, 1261 Building, Midland, MI 48667; and

2. NRC staff, by delivery to the Executive Director for Operations, One White Flint North, 11555 Rockville Pike, Rockville, MD 20852, or by mail addressed to the Executive Director for Operations, U.S. Nuclear Regulatory Commission, Washington, DC 20555–0001.

Dated at Rockville, Maryland, this 1st day of July, 1997.

For the Nuclear Regulatory Commission.

John W. N. Hickey,

Chief, Low-Level Waste and Decommissioning Projects Branch, Division of Waste Management, Office of Nuclear Material Safety and Safeguards.

[FR Doc. 97–17991 Filed 7–9–97; 8:45 am]

BILLING CODE 7590–01–P

NUCLEAR REGULATORY COMMISSION

[Docket No. 50–289]

GPU Nuclear Corporation; Three Mile Island Nuclear Station, Unit 1; Environmental Assessment and Finding of No Significant Impact

The U.S. Nuclear Regulatory Commission (the Commission) is considering issuance of an exemption from the requirements of 10 CFR part 50, Appendix R to GPU Nuclear Corporation (the licensee), for operation of the Three Mile Island Nuclear Station, Unit 1 (TMI–1), located in Dauphin County, Pennsylvania.

Environmental Assessment

Identification of the Proposed Action

The proposed action would grant an exemption from the requirements of 10 CFR part 50, Appendix R, to the extent that it requires the installation of automatic fire suppression systems in certain fire areas. The licensee is seeking an exemption from Appendix R, Section III.2.G.c, which requires the installation of automatic fire suppression systems in fire areas where redundant circuits required for safe shutdown are separated by fire barriers having a 1-hour rating and have fire detectors installed. The licensee requested exemptions for the following fire areas/zones: CB–FA–2b, CB–FA–2c, CB–FA–2d, CB–FA–2e, CB–FA–2f, CB–FA–2g, CB–FA–3a, CB–FA–3b, and FH–FZ–5.

The proposed action is in accordance with the licensee's application for exemption dated August 16, 1996, as supplemented by letters dated August 28, 1996 and January 3, 1997.

The Need for the Proposed Action

Installation of automatic fire suppression systems in the affected fire areas is not a viable alternative. The affected fire areas contain high voltage plant electrical equipment where automatic water suppression systems are not desirable. Halon gas suppression systems are no longer a viable option due to the environmental concerns. The affected fire areas and adjoining spaces are frequently occupied by plant personnel, therefore carbon dioxide suppression systems are not desirable due to the personnel hazard. Modification of the fire barrier envelopes within the affected fire areas to achieve a 3-hour rating, and therefore eliminating the need for fire suppression systems, would represent a substantial cost hardship.

Environmental Impacts of the Proposed Action

In lieu of an automatic sprinkler system, the licensee will install an area-wide automatic detection system in the affected fire areas and will establish that all the fire barrier envelopes within the affected fire areas have a minimum 1-hour fire endurance rating. Manual firefighting equipment is available either inside, or in close proximity to, all of the affected fire areas. Fire brigade response to these fire areas is expected to be rapid. Also, administrative controls limit the amount of combustibles in the affected fire areas.

The Commission has completed its evaluation of the proposed action and has concluded that the degree of fire protection afforded by the area-wide detectors, the minimum 1-hour rated fire barriers, the close proximity and rapid response of firefighting equipment, and certain administrative controls provide reasonable assurance that the ability to perform safe shutdown functions in the event of a fire will be maintained. This evaluation is applicable to the following fire areas identified in the licensee's submittal: CB–FA–2b, CB–FA–2c, CB–FA–2d, CB–FA–2e, CB–FA–2f, CB–FA–2g, CB–FA–3a, and CB–FA–3b.

Granting an exemption from the regulation for these fire areas will not increase the probability or consequences of accidents, no changes are being made in the types of any effluents that may be released offsite, and there is no significant increase in the allowable individual or cumulative occupational radiation exposure. Accordingly, the Commission concludes that there are no significant radiological environmental impacts associated with the proposed action.

With regard to potential nonradiological impacts, the proposed action involves features located entirely within the restricted area as defined in 10 CFR part 20. It does not affect nonradiological plant effluents and has no other environmental impact. Accordingly, the Commission concludes that there are no significant nonradiological environmental impacts associated with the proposed action.

Alternatives to the Proposed Action

As an alternative to the exemption, the Commission considered denial of the proposed action, thus requiring the licensee to upgrade the existing fire barrier envelopes to a 3-hour rating, or install automatic fire suppression systems. For fire areas CB–FA–2b, CB–FA–2c, CB–FA–2d, CG–FA–2e, CB–FA–2f, CB–FA–2g, CB–FA–3a, and CB–FA–